**IT Applications Unit 3, AOS 1, Online Communities**

Complete the following, from pgs, 14-18: **Network communication standards**

**Networks are classified according to below and we will study the following:**

1. **Network Categories: LAN, WAN**
2. **Network Architecture, client-server; peer-to-peer; internet peer-to-peer; intranet**
3. **Network communication standards**
4. **Network hardware and software**
5. **Transmission media**
6. **Network security**

**Network communication standards**

1. Why are network standards required?

They are required to overcome the problems of incompatibility on a network and to ensure that hardware and software components can be integrated into any network.

1. What is a protocol?

A protocol is a standard that defines how two comouters or devices on a nertwork transmit data.

1. What is the OSI?

OSI is the Open Systems Interconnection whish is a standard for network communications.

**Ethernet**

1. Describe the nature of Ethernet.

Ethernet is a network standard that describes communication over a single cable shared by all devices on the network.

1. What are frames?

Frames are the short messages that contain packets of information that are communicated between nodes by Ethernet.

1. Identify the 4 components of all Ethernet frames.

Destination address, source address, data and parity check.

1. Fig. 1-9 on p 17 lists the Ethernet type, cable type, maximum length and transfer rate for Ethernet transmissions. The College typically uses 100BaseTX, Cat 5 or 10Gbase-T. What are their respective maximum lengths and transfer rates?

Both of their maximum lengths are 85m and the 100BaseTX transfer rate is 100mbps whilst the transfer rate for 10Gbase-T is 10Gbps

**TCP/IP**

1. Describe the nature of TCP/IP.

TCP/IP defines how data is carried fromone part of a network to another.

1. TCP/IP uses smaller packets than other protocols. Why is this an advantage on the internet?

It is an advantage on the internet because the smaller packets give many more options to the network management network software to enable load balancing.

**802.11 wireless standard**

**1** What does this standard do?

This standard defines how two computers or devices can communicate using radio waves.

1. What is a Wi-Fi network?

A Wi-Fi network is a network that allows computers that are up to 50m apart to be connected without the need for wires.

3 Different wireless standards transmit at different frequencies. What is the advantage of the newer 802.11n standard?

The advantage is that it is expected to be faster and support a larger range